

cells, the abundance and form of the markings on the vessels, and the number and size of the medullary rays. These differences are such as to render exact identification with modern species hardly probable, and as a suitable means of distinction and recognition I would therefore propose for this fossil the name of *Quercus marcyana*.

Picea.—The wood of the *Picea* was cut with as great facility as the oak, and while the transverse sections were quite clear as to the details of structure, the longitudinal sections also gave numerous well preserved details, from which a series of drawings (plate II) were prepared.

So far as the details have been made out, they seem to establish affinity with *Picea sitchensis*, but as in the case of the *Quercus*, the differences are such as to cause hesitation in establishing exact identity between them. Were it possible to establish identity between the two, then there would be good evidence to show the extent to which the area of distribution of *Picea sitchensis* has contracted within recent geological time, since this species is now essentially confined to the Pacific coast, from Alaska to Mendocino, California, extending inland not more than fifty miles. I deem it expedient to distinguish this fossil by a separate name, for which I would suggest *Picea evanstoni*.

QUERCUS MARCYANA, n. sp.

Transverse section. Growth rings defined only by apposition of wood and vessels. No obvious distinction of spring and autumn wood. Wood cells irregularly disposed, the largest about 0.04 mm. in diameter.

Vessels numerous and large, measuring about 0.20×0.30 mm. compressed tangentially, chiefly in zones, alternating with zones of wood of about the same width. Thyloses conspicuous. The larger medullary rays are about 0.24 mm. broad, and usually separated by about twenty narrow rays of one cell in width.

Radial section. Markings of the vessels obscure, owing to the operation of decay.

Thyloses conspicuous and abundant, and showing few round pits.

Medullary rays well developed; cells short, usually once or twice as long as broad; walls rather thick and irregular, with numerous small channels; ends square or somewhat oblique. Perforations on the radial walls round, conspicuous and somewhat numerous.

Tangential section. Thyloses conspicuous, the markings numerous and composed of narrow slits. Markings on the walls of the vessels somewhat conspicuous and composed of linear or narrowly elliptical slits.

The smaller rays usually one row of cells wide, few to many cells high. The larger rays are many cells broad and very high.

PICEA EVANSTONI, n. sp.

PLATES II and III.

Annual rings well defined; tracheids of the autumn wood rather thick walled, of the spring wood thin walled, with a single row of unequally disposed bordered pits.